



# YEAR 2003 CONSUMER CONFIDENCE REPORT



## *Where Does Fort Irwin's Water Come From?*

**Fort Irwin** routinely monitors for constituents in the drinking water according to Federal and State laws. The tables show the results of the monitoring for the period of January 1<sup>st</sup> through December 31<sup>st</sup> 2003. It is important to Fort Irwin that the customers be informed.

### *Questions concerning this report or concerning the water system:*

Contact: Christopher Woodruff, Lead Water Quality for Fort Irwin  
(760) 380-4987.

### **MUY IMPORTANTE**

Este informe contiene informacion muy importante sobre su agua beber. Traduzcalo `o hable con alguien que lo entienda bien.

It is Fort Irwin's responsibility to provide water system customers with this year's Consumer Confidence Report (CCR). It is important to keep customers informed about the water quality and services delivered over the past year. Fort Irwin's goal continues to be to provide a safe and dependable supply of drinking water. The water source is groundwater pumped from three different aquifers within the Installations boundaries. There are 11 wells, 3 in Langford Lake Basin, 4 in Irwin Basin and 4 in Bicycle Lake Basin. Most of the year the water in our Domestic and Potable systems comes from Bicycle Lake Basin. During the summer months we also use the Langford Lake Basin. We do not pump from the Irwin Basin unless the demand requires it.



Last year, we conducted more than 3,000 tests on over 150 contaminants.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about the contaminants and potential health effects can be obtained by calling the EPA's safe drinking water hotline at 1-800-426-4791 or at their web site [www.epa.gov/safewater/](http://www.epa.gov/safewater/)

This table provides many terms and abbreviations customers may not be familiar with. To understand these terms, Fort Irwin has provided the following definitions:

Non-Detects (ND) – laboratory analysis indicates that the constituent is not present or not tested.

MG – Million gallons

Parts per million (ppm) or Milligrams per liter (mg/L) – one part per million corresponds to one minute in two years or a single penny in \$10,000.

Parts per billion (ppb) or Micrograms per liter = one part per billion corresponds to one minute in 2,000 years, or a single penny in \$10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/; - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in \$10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) – one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in \$10,000,000,000,000.

Pico curies per liter (pCi/L) – picocuries per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr) – measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) – million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity units is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Regulatory Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

Treatment Technique (TT) – A required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level Goal (MCLG) – The level of a contaminant in drinking water below which

there is no known or expected risk to health. MCLG's are set by the U.S. Environmental Protection Agency.

Public Health Goal or PHG – The level of a contaminant in drinking water below which there is known or expected risk to health. PHG's are set by the California Environmental Protection Agency.

Primary Drinking Water Standard or PDWS – MCL's for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

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Source of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, USEPA and the California Department of Health Services (Department) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

## **FORT IRWIN SERVICE AREA INFORMATION**

Fort Irwin's water system provides water to approximately 18,000 customers daily.

The water system consists of 11 wells that pump the domestic water into our system. There are 5 storage tanks that hold approximately 4,750,000 gallons of water for our domestic system. The water that we drink is processed through a Reverse Osmosis Water Treatment Plant. This process removes the excess contaminants and ensures our water meets all State and Federal Safe Drinking Water standards. There are 3 potable water storage tanks that store approximately 433,000 gallons of drinking water. There are 28 miles of potable water transmission lines and 82 miles of domestic water transmission lines.

Source water assessment was completed in 1997 in the form of a document entitled "Ground Water Hydrology and Water Quality of Irwin Basin At Fort Irwin and The National Training Center, California" Water-Resources from: US Geological Survey Information Services, Box 25286, Federal Center, Denver, CO 80255. Source water assessments for Langford Lake and Bicycle Lake Basins are not available. A copy of the Irwin Basin Assessment can be viewed at the County of San Bernardino District Office, 464 West 4<sup>th</sup> Street, Suite 437, San Bernardino, CA 92401. You may request a summary of the assessment be sent to you by contacting the DHS District Engineer at (909) 383-4328.

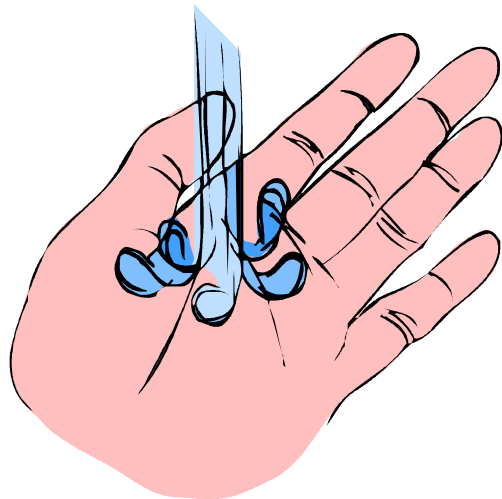
## **SYSTEM IMPROVEMENTS**




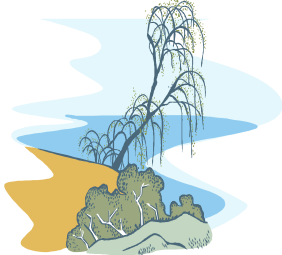
Fort Irwin is in the initial stages of development and design for a new Water Treatment Facility. Our goal is that by the year 2006 all water that our customer's use will be of a quality to consumer.

## **SHOULD CUSTOMERS BE CONCERNED?**

MCL's are set at very stringent levels. To understand the risk of possible health effects described for regulated contaminants, customers should know that a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effects.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA/Centers for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbiological contaminants are available from the Safe drinking water hotline.



	<p>Check toilet tanks for leaks.</p>	<p>Place a few drops of blue food coloring in the toilet tank. If coloring is seen in the toilet bowl without flushing, a wasteful leak needs to be repaired. A leaking toilet can waste up to 21,000 gallons of water per year.</p>
	<p>Install low-flow showerheads.</p>	<p>Low-flow showerheads can help you save up to 8 gallons of water for each minute of shower time. Also, you will use less hot water, which saves energy.</p>
	<p>Lawns and shrubs should be watered only when they really need it.</p> <p>Water at the right time of day.</p>	<p>Check lawns and shrubs to see if they need water. A lawn that springs back after being stepped on doesn't need water. Watering may not be necessary in the winter.</p> <p>In summer water only during the cooler parts of the day. The sun can cause most of the water to evaporate before it is absorbed into the soil.</p>
	<p>Fort Irwin is dependent upon it's self for water resources. Each of us needs to do our part to conserve this resource.</p>	<p>Remember to:</p> <ul style="list-style-type: none"> <li>Turn off the faucet.</li> <li>Turn off the garden hose.</li> <li>Conserve when washing vehicles.</li> <li>Report leaks to the housing department as soon as possible.</li> </ul>

# PRIMARY STANDARDS DRINKING WATER

## Mandatory Health Related Standards Established by the State of California, Department of Health Services or USEPA

TEST RESULTS –								
Data is obtained from most recent sampling and may be from previous years								
Contaminant	Violation Y/N	Average Level Detected	Range	Unit Measure- ment	MCL	PHG	MCLG	Likely Source of Contamination
<b>Radioactive Contaminants</b>								
Alpha Activity, Gross	N	ND	ND	pCi/L	50	N/A	N/A	Erosion of natural deposits
<b>Inorganic Contaminants</b> Lead and Copper Results are from April 2003 90 <sup>th</sup> percentile for Lead and Copper 0.005 mg/L Lead; 0.105 mg/L Copper 20 sites were sampled 0 sites exceeded the action level. No Lead or Copper was detected at the sources.								
Arsenic *	N	ND	ND	ppb	50	N/A	N/A	Erosion of natural deposits
Copper	N	ND	ND	mg/L	AL 1.3	0.17	AL= 1.3	Internal corrosion of household plumbing systems; erosion of natural deposits
Fluoride	N	0.75	ND – 2.0	mg/L	2	1	N/A	Naturally occurring from erosion of natural deposits
Nitrate	N	0.008	0.008	mg/L	45	45	45	Runoff and leaching from fertilizer use; leaching from septic tanks. Sewage; erosion of natural deposits
<b>Volatile organic contaminants</b>								
TTHMS	N	ND	ND	mg/L	100	N/A	N/A	By-product of drinking water chlorination

\* Some people who drink water-containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. Some of the wells at Fort Irwin contain low levels of arsenic; therefore treatment options are currently under review to meet the EPA's 2006 MCL of 10 ppb. The State has not yet set a new MCL for arsenic.

**SECONDARY STANDARDS DRINKING WATER**  
**Established by the State of California, Department of Health Standards**

Contaminant	Violation Y/N	Average Level Detected	Range	Unit Measurement	MCL	Likely source Of Contamination
Color	N	ND	ND	Units	15	Naturally-occurring organic materials
Corrosivity (Aggressive index)	N	10.3	9.2-11.7	Units	Non-Corrosive	Natural or industrially influenced balance of hydrogen, carbon & oxygen in the water, affected by temperature and other factors
Odor-Threshold	N	1	0-1	Units	3	Naturally-occurring organic materials
Turbidity	N	0.34	0.1-1.1	Units	5	Soil runoff
Total Dissolved Solids	N	188	63-620	mg/L	1000	Runoff/leaching from natural deposits
Specific conductance	N	215	200-230	Micromhos	1,600	Substances that form ions when in water; seawater influence
Chloride	N	43.5	26-61	mg/L	500	Runoff/leaching from natural deposits; seawater influence
Sulfate	N	41.5	21-62	mg/L	500	Runoff/leaching from natural deposits; industrial wastes

**GENERAL PHYSICAL AND UNREGULATED CHEMICALS THAT WERE DETECTED IN FORT IRWIN'S WELLS**

CONSTITUENT	AVERAGE	RANGE	CONSTITUENT	AVERAGE	RANGE
Hardness	24.8	16 - 38	Sodium	45	30-60
Calcium	6.7	4.9 – 8.1	Potassium	6.5	2 - 11
Magnesium	3.1	1.5 – 5.8	Alkalinity	30.6	22 - 42
Ph	7.3	6.4 – 7.8	Chromium 6	ND	ND

**DOMESTIC WATER SUPPLY (non-drinking)**  
**Mandatory Health Related Standards Established by the State of**  
**California, Department of Health Services or USEPA**

<b>TEST RESULTS –</b>								
<b>Data is obtained from most recent sampling and may be from previous years</b>								
Contaminant	Violation Y/N	Average Level Detected	Range	Unit Measure- ment	MCL	PHG	MCLG	Likely Source of Contamination
<b>Radioactive Contaminants</b>								
Alpha Activity, Gross	N	8.3	5.2-13.0	pCi/L	50	N/A	N/A	Erosion of natural deposits
Uranium	N	8.6	2.0-13.8	mg/L	20	0.5	0.5	Erosion of natural deposits
<b>Inorganic Contaminants</b>								
Lead and Copper Results are from April 2003 90 <sup>th</sup> percentile for Lead and Copper 0.005 mg/L Lead; 0.105 mg/L Copper 20 sites were sampled 0 sites exceeded the action level. No Lead or Copper was detected at the sources.								
Arsenic *	N	8.5	8.5	ppb	50	N/A	N/A	Erosion of natural deposits
Copper	N	0.004	ND-0.18	mg/L	AL 1.3	0.17	AL= 1.3	Internal corrosion of household plumbing systems; erosion of natural deposits
Fluoride	N	3.1	1.5-8.4	mg/L	2	1	N/A	Naturally occurring from erosion of natural deposits
Nitrate	N	.27	.27	mg/L	45	45	45	Runoff and leaching from fertilizer use; leaching from septic tanks. Sewage; erosion of natural deposits
<b>Volatile organic contaminants</b>								
TTHMS	N	0.011	0.003-0.030	mg/L	100	N/A	N/A	By-product of drinking water chlorination

\* Some people who drink water-containing arsenic in excess of the MCL over many years could experience skin damage or problems with their circulatory system, and may have an increased risk of getting cancer. Some of the wells at Fort Irwin contain low levels of arsenic; therefore treatment options are currently under review to meet the EPA's 2006 MCL of 10 ppb. The State has not yet set a new MCL for arsenic.



**SECONDARY STANDARDS DOMESTIC WATER**  
**Established by the State of California, Department of Health Standards**

Contaminant	Violation Y/N	Average Level Detected	Range	Unit Measurement	MCL	Likely source Of Contamination
Color	N	ND	ND	Units	15	Naturally-occurring organic materials
Corrosivity (Aggressive index)	N	11.92	11.6-12.8	Units	Non-Corrosive	Natural or industrially influenced balance of hydrogen, carbon & oxygen in the water, affected by temperature and other factors
Odor-Threshold	N	1	1	Units	3	Naturally-occurring organic materials
Turbidity	N	11.12	0.3-98.7	Units	5	Soil runoff
Total Dissolved Solids	N	580	320-700	mg/L	1000	Runoff/leaching from natural deposits
Specific conductance	N	965	930-1000	Micromhos	1,600	Substances that form ions when in water; seawater influence
Chloride	N	105	90-120	mg/L	500	Runoff/leaching from natural deposits; seawater influence
Sulfate	N	125	120-130	mg/L	500	Runoff/leaching from natural deposits; industrial wastes

**GENERAL PHYSICAL AND UNREGULATED CHEMICALS THAT WERE DETECTED IN FORT IRWIN'S WELLS**

CONSTITUENT	AVERAGE	RANGE	CONSTITUENT	AVERAGE	RANGE
Hardness	115	110 - 120	Sodium	155	150 - 160
Calcium	34.5	32 - 37	Potassium	9.5	9 - 10
Magnesium	6.8	6.4 - 7.2	Alkalinity	175	160 - 190
Ph	7.6	7.5 - 7.9	Chromium 6	.004	0.003 - 0.006